

quotes Jaccoud, who says that "under the influence of anaemia and insufficient nutrition the excitability of the nervous elements is diminished ; that is to say, its effects are less energetic, and exhaustion is more rapid, but by reason of the diminished vitality of the cells the excitability is aroused by very slight causes, which in health produce no reaction. The abnormal condition is then double : on the one hand the reaction is weak and of short duration ; on the other it is produced by impressions which ought to have no effect. This double condition can be well expressed by the term irritable or excitable weakness." Dr. Webber goes on to say that this condition is found in all cases of ill-nourished brain, whether the defect is due to a blood supply deficient in quantity or quality, or whether it may arise from an excessive supply of blood interfering with nutrition ; the same condition may arise from exhaustion due to overwork of the nerve cells, the supply of blood being nearly normal, that is, normal in comparison with the work required of the brain. As these conditions lead alike to defective nutrition of the brain, it is to be expected that many of the symptoms to which they give rise will be the same in one as in another condition. Thus the headache, vertigo, nausea, found in congestion, are also found in anaemia ; the excitement, delirium, hallucinations, etc., found in hyperaemia, are also seen in anaemia. Also the same symptom may be the expression of exhaustion, or of poisoning of the blood. Much has been written about hyperaemia, and great stress has been laid upon too much blood flowing to the brain. Perhaps there are patients in which this condition exists, and yet in by far the majority of patients I believe the explanation of these symptoms is to be found in mal-nutrition from insufficient supply of food, or from inability to assimilate the food taken, or from exhaustion due to over-use, with too short periods of rest, or from inferior quality of the blood. The irritable brain may temporarily receive a relatively increased supply of blood, though its nutritive quality or its amount may be below that appropriate for health ; owing to the abnormal irritability of the brain this excess over the usual supply is sufficient to cause excitement. This would be only a temporary, and perhaps a local increase of blood supply in an anaemic brain, and should not influence either the diagnosis or treatment.—*Brit. Med. and Surg. Journ.*, Nov. 1882, No. 18, vol. cvii.

ON THE SOMEWHAT FREQUENT OCCURRENCE OF DEGENERATION OF THE POSTERO-LATERAL COLUMNS OF THE SPINAL CORD IN SO-CALLED SPINAL CONCUSSION.—Dr. R. T. Edes, of Boston, in a communication to the American Neurological Association, under the above title, states that his object is to show that among the various lesions which may occur in cases of this kind (not curable by a verdict for damages) there is one, quite definite, which may come early and stay late. With the exception of

one case, his views are supported only by clinical evidence based on the occurrence of certain symptoms which are now quite generally looked upon as showing degeneration of the postero-lateral (crossed pyramidal) columns of the spinal cord. He desires to show that when the immediate effects have passed off, and sometimes when these effects have not been at all definite, the symptoms showing this lesion may be developed, and be the only prominent ones throughout the case. They consist of contractures, increased tendon reflex, and ankle clonus. *Case I.*—A lead-worker, æt. twenty-six, fell backward down stairs while drunk. On admission to the hospital the following day, had cellulitis of the right leg and various bruises on both legs; four days after was unable to move the right leg; there was incontinence of urine. Two days later the left leg would not move. He lost more or less strength in his hands. Two months after it was noticed that his legs "drew up" at night, and he had difficulty in straightening them out. Pain in the back and between the shoulders occurred; considerable muscular atrophy in the left hand, less in the right; reflex and tendon reflex about normal. Ten days later the ankle clonus was very well marked; the patellar reflex was attended with several vibrations; there was no (slight?) olecranon tendon reflex. From this time his condition continued about the same, until his discharge from the hospital unrelieved. Attempts at voluntary movement were attended with strong spasmoid movements in both legs, which could easily be excited by the usual procedure for obtaining the ankle clonus. He had a lead line on his gums, and lead was found in his urine, interesting in connection with a possible affection of the anterior horns, and atrophy of the muscles of the hand noted early in the case. *Case II.*—A laborer fell down stairs eight days before his entrance into the hospital; thinks he struck his head, but has no bruise anywhere. Immediately after the fall he lost the use of both arms and hands. He can now move his right elbow a little. His legs are weak, so that he staggers on attempting to walk. There has been twitching of both legs for the last two days. The day following his admission he did not sleep well, complaining of pain darting down the arms, which he says began immediately after the accident. The muscles react well to the faradic current. The paralysis disappeared rapidly and almost completely, and it was after his officiation as a volunteer nurse, and about two months after the accident, that it was found that the tendon reflexes of the upper extremities were greatly exaggerated; moderate taps upon the tendon of the biceps, triceps, supinator-longus, deltoid, pectorales, and even the sterno-mastoid, exciting decided and, in some instances, very active responses. Patellar tendon reflex somewhat increased; no ankle clonus. He was discharged relieved. *Case III.*—A laborer in a sewer, aged thirty-five, was injured by the caving in of a sewer seven years ago, and laid up for a week. There is no history of fracture. He has been unable to do a full amount

of work since, and his present condition has continued to develop itself gradually. His patellar reflex is much increased, the ankle clonus extreme. He feels strong, and can walk, not fast, however, and has a characteristic clinging (spastic) gait. There was much increase in excitability during a few days under the use of strychnia. While in this condition a tracing made upon a registering drum, by causing his toe to make and break a circuit while resting on the heel, shows a regularity of vibration like that of a tuning-fork. The tendon reflex in the upper extremity was very decided, but not so extreme as in Case II. Upon stopping the strychnia the irritability was considerably diminished, though still more than normal, and the clinging gait was unchanged.

Case IV.—An expressman fell on his back across a wheel, Nov. 17th, fracturing his radius and receiving other injuries to hand and arm. His legs soon began to draw up, and he had pain and twitching in them, which continued until about January 1st. Catheterization was necessary for five or six days. When first seen by Dr. Edes, early in February, his feet and legs were very oedematous, and he had several bad bed-sores. It was difficult to make any minute observation of the nervous condition of his legs, but he could move them a little. Soon after it was noted that the tendon reflex of the triceps cubiti was well marked, and shortly after his hands and arms showed in the most decided manner extreme contraction, resistance to any extension much beyond a right angle, and great muscular atrophy. He died of exhaustion, after extensive sloughing, on March 12th. A careful autopsy showed no microscopic lesions of the nervous centres, except a slight lepto-meningitis of the brain. Unfortunately, the medulla oblongata was not preserved for the microscope, and the upper portion of the cervical cord was not examined. Throughout the rest of the cord the fresh specimen showed extreme granular degeneration of the postero-lateral columns, and also the columns of Türk.

The author describes a device for testing and recording the tendon reflex.—*Boston Med. and Surg. Journ.*, vol. cvii, No. 12.

THE RELATION BETWEEN POLIOMYELITIS AND DISSEMINATED NEURITIS.—Dr. J. J. Putnam, of Boston, reported before the Boston Society for Medical Observation, three cases illustrative of this subject. The first case was characterized clinically by great pain, anaesthesia, and paraesthesia, referred to the four extremities, muscular wasting, and great diminution or loss of electrical irritability, finally delirium and stupor. After death, spots of softening were found in the optic thalami, but the cord and membrane were nearly healthy; certainly showed no marked disease. The peripheral nerves had not been examined, but it was plain that they had not been diseased, and probable that the disease was primary. In the second case, the symptoms had been those of poliomyelitis, except that localized and continued pain had been